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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,404	12/05/2001	Max K. Mortensen	PI-7248	2691
7590	10/20/2003			
Mr. Philip M. Pippenger Law Department Albemarle Corporation 451 Florida Street Baton Rouge, LA 70801-1765			EXAMINER PRICE, ELVIS O	
			ART UNIT 1621	PAPER NUMBER 10
DATE MAILED: 10/20/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/010,404

Applicant(s)

MORTENSEN ET AL.

Examiner

Elvis O. Price

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 13-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAILED ACTION**

Claims 1-24 are pending in the application.

#### ***Election/Restrictions***

Applicants' election of Group I (claims 1-6 and 13-24) in Paper No. 7 is acknowledged. Claims 7-12 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7. The traversal is on the ground(s) that since the subject matter of Groups I and II are both found in the same class and subclass then the search will not involve an undue burden. Additionally, applicants argue that keeping the inventions (Groups I and II) together would minimize paperwork, cost and inconvenience for applicants and the public. These arguments are not found persuasive because prior art anticipating and/or rendering one invention obvious would not necessarily anticipate or render obvious the other invention. Thus, an undue burden of search would be required to prosecute both inventions.

The requirement is still deemed proper and is therefore made FINAL.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5, 13-18, and 20-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 1, 13 and 24 recites the broad recitation "at least two", and the claim also recites "and preferably three hydrogen atoms" which is the narrower statement of the range/limitation.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-6 and 13-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elnager {US Pat. 6,103,926}.

Applicants claim, in brief, a thermal benzylic bromination process for producing a benzyl bromide comprising, contacting gaseous bromine with a reaction mixture having an organic, liquid phase comprising an aromatic ring-containing compound bearing one benzylic carbon atom.

Elnager teaches a thermal benzylic bromination process for producing a benzyl bromide comprising, contacting bromine with a reaction mixture having an organic, liquid phase comprising an aromatic ring-containing compound bearing one benzylic carbon atom at a temperature that is between 100<sup>0</sup> C to about 170<sup>0</sup> C (see Col. 3, lines 16-67 through Col. 4, lines 1-18 and Examples 1 and 2). Elnager teaches that the hydrogen halide by-product, which results from the reaction, should be removed from the reaction mixture by washing with water or purging the reaction mixture with an inert gas (see Col. 6, lines 64-67 thorough Col. 7, lines 1-17). Elnager teaches that the molar ratio of the bromine relative to the said aromatic ring-containing compound should not exceed 0.8 and discloses a molar ratio of 0.59 of bromine to the aromatic ring-containing compound (see Col. 6, lines 28-34 and Example 1, respectively). The difference between the presently claimed invention and what is taught by the Elnager reference is that the Elnager reference does not disclose specifically a thermal benzylic

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bromination process in which gaseous bromine is contacted with the said aromatic ring-containing compound and Elnager does not teach aromatic ring-containing compounds such as toluene, p-bromotoluene, p-fluorotoluene or 4-bromo-2-fluorotoluene.

However, Elnager generally teaches that to assist in the rapid dispersal of bromine in the reaction mixture so as to suppress localized bromine accumulation the bromine is, inter-alia, preferably feed to the reaction mixture in the form of a gaseous mixture diluted with an inert gas because such an addition of the bromine results in reaction rate acceleration and minimization of by-product formation (see Col. 4, lines 18-30). Elnager also teaches, generally that substituents on the aromatic ring-containing compound(s), which are devoid of non-aromatic unsaturation, are not susceptible to halogenation (Col. 3, lines 44-50).

It would have been *prima facie* obvious to one having ordinary skill in the art, in view of the Elnager reference, to produce a benzyl bromide as presently claimed because Elnager teaches that a thermal benzylic bromination process for producing benzyl bromide in which an aromatic ring-containing compound, containing a benzylic carbon, may be contacted with liquid or gaseous bromine (diluted with an inert gas) at temperatures between 100<sup>0</sup> C to about 170<sup>0</sup> C.

One having ordinary skill in the art, in view of the teachings in the Elnager reference, would have been motivated to produce a benzyl bromide by contacting an aromatic ring-containing compound with gaseous bromine diluted with an inert gas in an effort to minimize by-product formation. One having ordinary skill in the art, desiring to arrive at any and all possible benzyl bromide compounds that may potentially be used in


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the production of pharmaceutical products, would have also been motivated to use aromatic ring-containing compounds such as toluene, p-bromotoluene, p-fluorotoluene or 4-bromo-2-fluorotoluene because Elnager generally teaches that substituents devoid of non-aromatic unsaturation, which are attached to the aromatic ring-containing compound, are not susceptible to halogenation. The instantly claimed invention would therefore have been obvious to one having ordinary skill in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elvis O. Price whose telephone number is 703 605-1204. The examiner can normally be reached on 8:30 am to 5:00 pm; Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on 703 308-4532. The fax phone numbers for the organization where this application or proceeding is assigned is 703 308-4556 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-1235.



Elvis O. Price

October 15, 2003